IN THE CLAIMS

1. (currently amended) A method of pre-correcting a DTV translator for distortion produced by a high power amplifier and emission mask filter of the DTV translator, the DTV translator having a receiver and a transmitter, the method comprising:

coupling an output of the high power amplifier and emission mask filter to the receiver;

tuning the receiver from a frequency at an input of the DTV translator to a different frequency at the output of the high power amplifier and emission mask filter so that the receiver determines the distortion produced by the high power amplifier and emission mask filter of the DTV translator in response to the tuned signal ~~as to produce a tuned signal~~; and,

transferring the distortion from the receiver to the transmitter so as to pre-correct ~~pre-correcting~~ the DTV translator for the distortion ~~in response to the tuned signal~~.

2. (currently amended) The method of claim 1 further comprising de-coupling the receiver and the transmitter during the coupling of an output of the high power amplifier and emission mask filter to the receiver~~,~~

and the tuning of the receiver to the output of the high power amplifier and emission mask filter~~, and the pre-correcting of the DTV translator in response to the tuned signal~~.

3. (currently amended) The method of claim 1 wherein the receiver includes an equalizer, wherein the transmitter includes a pre-equalizer, wherein the tuning of the receiver to the output of the high power amplifier and emission mask filter comprises tuning the receiver to the output of the high power amplifier and emission mask filter such that the equalizer adapts to the tuned signal, and wherein the ~~pre-correcting of the DTV translator in response to the tuned signal~~ transferring of the distortion from the receiver to the transmitter comprises transferring tap values from the equalizer to the pre-equalizer.

4. (original) The method of claim 3 further comprising de-coupling the receiver and the transmitter during the coupling of an output of the high power amplifier and emission mask filter to the receiver, the tuning of the receiver to the output of the high power

amplifier and emission mask filter, and the transferring of tap values from the equalizer to the pre-equalizer.

5. (original) The method of claim 1 further comprising using the receiver for verifying performance of the DTV translator.

6 - 10. (canceled)

11. (original) A method of pre-correcting a DTV translator for distortion produced by a high power amplifier and emission mask filter of the DTV translator, the DTV translator having a receiver and a transmitter, the method comprising:

coupling an output of the transmitter to the receiver;

tuning the receiver to the output of the transmitter;

calibrating the receiver in response to the tuned transmitter output signal;

transferring the calibration to the transmitter;

coupling an output of the high power amplifier and emission mask filter to the receiver;

tuning the receiver to the output of the high power amplifier and emission mask filter; and,

pre-correcting the DTV translator in response to the tuned high power amplifier and emission mask filter output signal.

12. (original) The method of claim 11 further comprising de-coupling the receiver and the transmitter during the coupling of an output of the transmitter to the receiver, the tuning of the receiver to the output of the transmitter, the calibrating of the receiver in response to the tuned transmitter output signal, the transferring of the calibration to the transmitter, the coupling of an output of the high power amplifier and emission mask filter to the receiver, the tuning of the receiver to the output of the high power amplifier and emission mask filter, and the pre-correcting of the DTV translator in response to the tuned high power amplifier and emission mask filter output signal.

13. (original) The method of claim 11 wherein the receiver includes an equalizer, wherein the transmitter includes a pre-equalizer, wherein the calibrating of the receiver in response to the tuned

transmitter output signal comprises calibrating the receiver in response to the tuned transmitter output signal such that the equalizer adapts to the tuned transmitter output signal, wherein the transferring of the calibration to the transmitter comprises transferring tap values from the equalizer to the pre-equalizer, wherein the tuning of the receiver to the output of the high power amplifier and emission mask filter comprises tuning the receiver to the output of the high power amplifier and emission mask filter such that the equalizer adapts to the tuned high power amplifier and emission mask filter output signal, and wherein the pre-correcting of the DTV translator comprises transferring tap values from the equalizer to the pre-equalizer.

14. (original) The method of claim 13 further comprising de-coupling the receiver and the transmitter during the coupling of an output of the transmitter to the receiver, the tuning of the receiver to the output of the transmitter, the calibrating of the receiver in response to the tuned transmitter output signal, the transferring of the tap values from the equalizer to the pre-equalizer, the coupling of an output of the high power amplifier and emission mask filter to the receiver,

the tuning of the receiver to the output of the high power amplifier and emission mask filter, and the transferring of tap values from the equalizer to the pre-equalizer.

15. (previously presented) The method of claim 11 further comprising:

reloading and freezing the calibration back into the equalizer; and,

verifying performance of the DTV translator based on the calibrated receiver and the pre-distorted transmitter.

16. (original) The method of claim 15 further comprising de-coupling the receiver and the transmitter during the coupling of an output of the transmitter to the receiver, the tuning of the receiver to the output of the transmitter, the calibrating of the receiver in response to the tuned transmitter output signal, the transferring of the calibration to the transmitter, the coupling of an output of the high power amplifier and emission mask filter to the receiver, the tuning of the receiver to the output of the high power amplifier and emission mask filter, and the pre-correcting of the DTV

translator in response to the tuned high power amplifier and emission mask filter output signal.

17. (original) The method of claim 15 wherein the receiver includes an equalizer, wherein the transmitter includes a pre-equalizer, wherein the calibrating of the receiver in response to the tuned transmitter output signal comprises calibrating the receiver in response to the tuned transmitter output signal such that the equalizer adapts to the tuned transmitter output signal, wherein the transferring of the calibration to the transmitter comprises transferring tap values from the equalizer to the pre-equalizer, wherein the tuning the receiver to the output of the high power amplifier and emission mask filter comprises tuning the receiver to the output of the high power amplifier and emission mask filter such that the equalizer adapts to the tuned high power amplifier and emission mask filter output signal, and wherein the pre-correcting of the DTV translator comprises transferring tap values from the equalizer to the pre-equalizer.

18. (original) The method of claim 17 further comprising de-coupling the receiver and the transmitter during the coupling of an output of the transmitter to the receiver, the tuning of the receiver to the output of the transmitter, the calibrating of the receiver in response to the tuned transmitter output signal, the transferring of the tap values from the equalizer to the pre-equalizer, the coupling of an output of the high power amplifier and emission mask filter to the receiver, the tuning of the receiver to the output of the high power amplifier and emission mask filter, and the transferring of tap values from the equalizer to the pre-equalizer.

19. (previously presented) A DTV translator for use with a receiving antenna and a transmitting antenna comprising:

a receiver including a tuner and an equalizer;

a transmitter including a pre-equalizer and a transmitter output;

a high power amplifier and emission mask filter coupled to the transmitter output and having a high power amplifier and emission mask filter output;

a first switch coupled to the tuner and adapted to be coupled the receiving antenna;

a second switch coupled to the transmitter output, to the high power amplifier and emission mask filter output, and to the first switch;

a third switch coupled between the receiver and the transmitter; and,

a controller, wherein the controller during normal operation tunes the tuner to a received channel and operates the first and third switches to couple the receiving antenna to the tuner and to couple the receiver to the transmitter, and wherein the controller during a set-up operation (i) operates the first, second, and third switches to couple the transmitter output to the tuner and to disconnect the receiver from the transmitter, (ii) operates the tuner to tune to the transmitter output such that taps of the equalizer adjust to calibration values that reduce receiver related distortion, (iii) transfers the calibration values from the equalizer to the taps of the pre-equalizer, (iv) operates the first, second, and third switches to couple the high power amplifier and emission mask filter output to the tuner and to disconnect the receiver from the transmitter, (v) operates the tuner to tune to the high

power amplifier and emission mask filter output such that the taps of the equalizer adjust to pre-distortion values that reduce high power amplifier and emission mask filter related distortion, and (vi) transfers the pre-distortion values from the equalizer to the taps of the pre-equalizer.

20. (original) The DTV translator of claim 19 wherein the controller further (vii) operates the first, second, and third switches to couple the high power amplifier and emission mask filter output to the tuner and to disconnect the receiver from the transmitter, (viii) tunes the tuner to the high power amplifier and emission mask filter output, (ix) loads calibration values into the equalizer and freezes the taps of the equalizer at the calibration values, and (x) determines signal quality at the output of the receiver.

21. (original) The DTV translator of claim 19 wherein the receiver includes a VSB decoder, wherein the equalizer is coupled between the tuner and the VSB decoder, wherein the transmitter includes a data and clock processor and a VSB modulator and upconverter, and

wherein the pre-equalizer is coupled between the data and clock processor and the VSB modulator and upconverter.

22. (original) The DTV translator of claim 21 wherein the data and clock processor revises the virtual channel data packet and locks the transmitter symbol clock to the incoming symbol clock.

23. (original) The DTV translator of claim 21 wherein the controller further (vii) operates the first, second, and third switches to couple the high power amplifier and emission mask filter output to the tuner and to disconnect the receiver from the transmitter, (viii) tunes the tuner to the high power amplifier and emission mask filter output, (ix) loads calibration values into the equalizer and freezes the taps of the equalizer at the calibration values, and (x) determines signal quality at the output of the receiver.

24. (original) The DTV translator of claim 23 wherein the data and clock processor revises the virtual channel data packet and locks the transmitter symbol clock to the incoming symbol clock.

25. (previously presented) A method of pre-correcting a DTV translator for distortion produced by a distortion causing device of the DTV translator, the DTV translator having a receiver and a transmitter, the method comprising:

coupling an output of the transmitter to the receiver so as to exclude the output of the distortion causing device from the coupling of the output of the transmitter to the receiver;

tuning the receiver to the output of the transmitter;

calibrating the receiver in response to the tuned transmitter output signal;

transferring the calibration to the transmitter;

coupling the output of the distortion causing device to the receiver; and,

pre-correcting the DTV translator in response to the output of the distortion causing device.

26. (previously presented) The method of claim 25 wherein the pre-correcting of the DTV translator in response to the output of the distortion causing device comprises:

calibrating the receiver in response to the output of the distortion causing device; and,

transferring to the transmitter the calibration of the receiver in response to the output of the distortion causing device.

27. (previously presented) The method of claim 25 further comprising disconnecting an output of the receiver from an input of the transmitter prior to the coupling of an output of the transmitter to the receiver so as to exclude the output of the distortion causing device from the coupling of the output of the transmitter to the receiver.

28. (previously presented) The method of claim 27 wherein the pre-correcting of the DTV translator in response to the output of the distortion causing device comprises:

calibrating the receiver in response to the output of the distortion causing device;

transferring to the transmitter the calibration of the receiver in response to the output of the distortion causing device; and,

re-connecting the output of the receiver to the input of the transmitter following transferring to the transmitter of the calibration of the receiver in response to the output of the distortion causing device.